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The Honorable John R. Bolton  
Assistant to the President for National Security  
Affairs  
Co-Chair, U.S. Nuclear Fuel Working Group  
The White House  
Washington, D.C. 20500

The Honorable Lawrence A. Kudlow  
Assistant to the President for Economic Policy and  
Director of the National Economic Council  
Co-Chair, U.S. Nuclear Fuel Working Group  
The White House  
Washington, D.C. 20500

**Subject: Industry Recommendations for the President's Nuclear Fuel Working Group**

Dear Chairmen Bolton and Kudlow:

The Nuclear Energy Institute (NEI)<sup>1</sup> appreciates the efforts of the President's United States Nuclear Fuel Working Group to develop recommendations for reviving and expanding domestic nuclear fuel production.<sup>2</sup> This initiative should complement the Administration's ongoing review of U.S. nuclear energy policy to find new ways to revitalize this crucial energy resource.<sup>3</sup>

Nuclear energy is the largest, most efficient source of emissions-free electricity in the United States. Currently, 97 commercial nuclear power plants in 29 states provide nearly 20 percent of America's electricity and more than half of the emissions-free electricity. Nuclear energy facilities are essential to the country's economy and the local communities in which they operate. The typical operating plant generates \$470 million each year in the sale of goods and services in the local community, and employs 700 to 1,000 workers. Construction of a new nuclear plant provides approximately 3,500 jobs at peak times. Collectively, the nuclear industry contributes about \$60 billion annually to the U.S. economy and supports more than 475,000 jobs.

As the Administration recognizes, the United States must maintain its leadership in the development and operation of civilian nuclear energy facilities, ensure ready access to a robust fuel supply chain, and facilitate U.S. innovation by removing barriers to commercializing additional peaceful uses of nuclear energy here and abroad. NEI commends the Administration for its leadership on these critical issues and

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<sup>1</sup> The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

<sup>2</sup> Memorandum on the Effect of Uranium Imports on the National Security and Establishment of the United States Nuclear Fuel Working Group, July 12, 2019.

<sup>3</sup> Remarks by President Trump at the Unleashing American Energy Event, June 29, 2017.

encourages it to continue to heighten attention to them as part of our national security, economic, and environmental strategies. Only with a serious federal commitment can the nuclear sector sustainably contribute to those imperatives.

Unquestionably, a cost-competitive domestic nuclear fuel supply chain, including all of its stages, is an essential element of U.S. leadership in nuclear energy. However, a revitalized domestic nuclear fuel supply chain cannot exist without a strong customer base producing a strong demand for necessary products and services. It is of great concern that, between 2013 and the end of this year, nine nuclear plants will have prematurely discontinued operation. An additional eight reactors are scheduled to prematurely close in the next several years and others are facing significant economic pressures making their future uncertain. Failure to maintain the existing nuclear fleet and to build new plants will only further harm U.S. fuel suppliers.

The federal government can and should address anticipated plant closures. The Federal Energy Regulatory Commission should be directed to work with stakeholders to achieve full valuation of nuclear's attributes in electricity markets. There are many other actions that we believe are necessary to ensuring a healthy nuclear sector, including additional Department of Energy loan guarantee authority to support large nuclear projects, enhancing Administration authority to enable federal facilities to enter into multi-decade power purchase agreements, and ensuring the Nuclear Regulatory Commission's regulatory regime is safety focused, timely, consistent, cost-contained, and transparent. In short, actions to maintain and grow the U.S. nuclear fleet and support export of U.S. products will directly benefit the domestic nuclear fuel supply chain.

At the same time, the U.S. nuclear fuel supply chain is facing significant challenges. We risk the loss of the Nation's capability to produce unobligated fuel for defense needs without immediate Government funded relief. The U.S. currently has no domestic technology enrichment facility and faces the loss of capabilities to produce U.S. unobligated mined and converted uranium. The 2011 Fukushima accident resulted in the immediate shutdown of 54 Japanese reactors, a global slowdown of new nuclear builds, and certain countries discontinuing their nuclear programs. This slowdown resulted in a substantial supply and demand imbalance in the global market and decline in market prices persisting over the last several years. In 2018, U.S. uranium production was at its lowest level in 70 years and the only U.S. conversion facility is currently in an idle state. Foreign heads of state are often key advocates for their national nuclear industry and provide varying degrees of state support that have enabled some fuel suppliers to withstand this prolonged market downturn.

Policy, legislative, and regulatory reforms are necessary to ensure the continuation of a cost-competitive domestic nuclear fuel supply chain. This is a national issue and these reforms require immediate government support and financial backing. These costs are the responsibility of the Nation, not utilities and their ratepayers where added costs could jeopardize the continued operation of economically challenged plants. NEI offers the attached recommendations to support the Administration's efforts. Specifically, we believe the most immediate and meaningful results would be achieved by making funds available using Defense Production Act authority, along with other federal funds as needed, to:

1. Accelerate the procurement of unobligated fuel from U.S. suppliers to meet future U.S. national security requirements.
2. Increase the quantities held in the American Assured Fuel Supply (AFS) reserve.
3. Incentivize the purchase of domestically mined fuel with direct payments to either a U.S. utility or domestic uranium producer for sale of U.S.-origin uranium to a utility.

Although the domestic nuclear industry is facing challenges, the global outlook is bright. But in recent years, Russia and China have displaced the U.S. as leaders in nuclear energy. For the U.S. nuclear industry to regain its influence, in addition to revitalizing the domestic fuel cycle, the Administration must establish policies that enable U.S. businesses to compete overseas where more than 50 reactors are under construction. To facilitate the ability of U.S. companies to compete effectively in global markets, the government should establish an effective and adequately funded U.S. international nuclear cooperation and market development program. The Administration should support competitive export financing for U.S. nuclear exports and streamline the burdensome nuclear export control processes.

We appreciate your consideration of these recommendations and look forward to interacting with the Administration and Working Group as it develops the report. The industry stands at the ready to support this process and future actions needed to reinvigorate the sector. If you have any questions or require additional information, please contact me or Nima Ashkeboussi at (202) 739-8022 or [nxa@nei.org](mailto:nxa@nei.org).

Sincerely yours,



Maria Korsnick

Attachment: Recommendations for Revitalizing the Domestic Fuel Cycle

- c: The Honorable Michael R. Pompeo, Secretary of State  
The Honorable Steven T. Mnuchin, Secretary of the Treasury  
The Honorable Rick Perry, Secretary of Energy  
The Honorable Wilbur L. Ross, Jr., Secretary of Commerce  
The Honorable Kristine Svinicki, Chairman, U.S. Nuclear Regulatory Commission

## Recommendations for Revitalizing the Domestic Fuel Cycle

Federal policies should promote the viability of a competitive domestic fuel supply chain as a key component of U.S. leadership in nuclear energy. The most effective support the federal government can provide to the domestic mining, conversion, and enrichment industries is to fulfill the government's national security needs with long-term contracts. Contracts provide certainty and positive signals to invest in the infrastructure needed to produce fuel components. Without such forward contracting, the domestic fuel cycle will continue to experience suppressed exploration, development, and production.

Implementing all of the bulleted recommendations utilizing Defense Production Act (DPA) authority, along with other federal funds as needed, will preserve much of the currently operating uranium mining, milling, and conversion capacity and reestablish U.S. technology enrichment needed for future defense needs. The following recommendations would be the most effective means of revitalizing the fuel cycle.

1. Utilize the DPA, which authorizes the President to make purchases, purchase commitments, and direct investments to immediately:
  - Accelerate the procurement of unobligated domestic fuel (uranium, conversion, and enrichment) for future U.S. national security requirements. These requirements should be filled under long-term contracts and secured via a competitive process with licensed miners, converters, and dedicated domestic U.S. technology enrichment providers. This material and the enrichment capability should be maintained in a strategic defense reserve and sequestered from the commercial market. We believe defense requirements would be satisfied with annual production of 10 metric tons (approximately 1 million pounds  $U_3O_8$ ) of high-assay low enriched uranium and 53 metric tons (approximately 1.3 million pounds of  $U_3O_8$ ) of unobligated low enriched uranium. The Administration should purchase uranium and conversion in advance of the operation of an enrichment facility. DPA funded construction of U.S. technology enrichment should be built to the size required to exclusively service national security requirements and could only supply commercial fuel if markets are unable to meet industry needs.
  - Increase the quantities held in the American Assured Fuel Supply (AFS) reserve. The DOE manages the AFS bank in the event of a fuel supply disruption that threatens commercial nuclear plant operation. The bank currently holds approximately 6 reloads of low enriched uranium. DOE should competitively contract with domestic producers to increase the fuel bank with an additional 30 reloads (requiring approximately 25 million total pounds of  $U_3O_8$ ) over a 7-10 year period with U.S. licensed miners and converters. To fulfill the enrichment needs for AFS material, DOE could consider utilizing U.S. technology enrichment, which, in combination with the recommendation above, creates a demand signal that will reinvigorate the domestic supply chain needed for U.S. national security requirements. Alternatively, DOE could consider any U.S. enrichment facility as the current AFS inventory is not unobligated. Long-term contracts should be prioritized to preserve existing unobligated infrastructure. This material should only be available to utilities when fuel cannot be obtained through normal market conditions under the existing AFS release criteria.

- DoD should incentivize the annual purchase of approximately two to three million pounds of domestically mined, converted, and enriched uranium with direct payments to either a U.S. utility or domestic uranium producer within 30 days of the sale of U.S. origin uranium to a utility under a long-term contract with a licensed producer. The payment would be calculated based on the difference between a benchmark price and a market price at the time of contract for newly mined uranium that is sold to U.S. nuclear utilities under long-term contracts for the generation of electricity. The payment would be reduced by any corresponding increase in market price compared to the benchmark price.
- Fund DoD Power Purchase Agreements with utilities that have a specified percentage of domestic uranium fuel supply chain purchases. The Power Purchase Agreements can support the continued operation of economically challenged nuclear plants, provide DoD with a source of clean, reliable, and resilient electricity, and support domestic uranium production.

The following additional policy, legislative, and regulatory recommendations supplement the recommendations above.

2. Incentivize the purchase of U.S. mined uranium and U.S. conversion with a tax credit to nuclear utilities. A tax credit would help ensure that a stable supply of domestic fuel cycle capabilities remains operational and available for future defense needs. The amount of the tax credit would be calculated based on the difference between a benchmark price and a market price for newly produced mined and converted uranium that is sold to U.S. nuclear utilities under long-term supply contracts with a licensed domestic producer.
3. Provide access to EPA cleanup trust funds. Utilize existing trust funds to cleanup abandoned uranium mines on federal and tribal lands to address the legacy of former government national security requirements for uranium. This work should be expedited and a preference for treatment of the contaminated soils using existing underutilized uranium mill capacity to recycle the uranium for clean energy production, and create a long-term, federal solution to this legacy waste. This would also create a substantial number of jobs in the impoverished region. As an alternative, DOE could refer to the NRC non-11e(2) guidance as a basis for direct disposal of these uranium contaminated soils into uranium mill tailings cells.
4. Support utility power uprates as a means to increase fuel demand. DOE should provide support for utility analysis of critical components, low interest loans to replace systems and components needed to handle higher power levels, and licensing costs.
5. Continue Administration support through existing DOE programs and agreements to invest in new nuclear fuel technology development including accident tolerant fuels, high-assay low enriched uranium fuel cycle infrastructure, and next generation enrichment technology to reestablish U.S. nuclear leadership in innovation.
6. Waive Federal Government mining claim annual fees during periods of inactivity or market downturns. Fees can challenge the ability to maintain staff and license requirements when it is

uneconomical to produce. A reduction in fees would support continued ownership, exploration, and development during periods of low market prices.

7. Utilize existing DOE guaranteed loan authority to expand the scope of loan options to include domestic uranium, conversion, and enrichment facilities during project development or restarts.
8. Lift current federal land withdrawal restrictions prohibiting access to high grade domestic uranium deposits pursuant to the Administration's Federal Strategy to Ensure a Reliable Supply of Critical Minerals administered by the U.S. Department of the Interior.
9. Modernize the Nuclear Regulatory Commission's regulatory regime to be more safety focused, risk-informed, timely, consistent, cost-contained, and transparent.